AMENDMENTS TO THE CLAIMS

The following is a complete listing of the revised claims with a status identifier in parenthesis.

LISTING OF CLAIMS

1. (Currently Amended) An X-ray detector for a CT device, comprising:

a phosphor layer, adapted to generate electromagnetic radiation as a function of an occurrence of X-radiation; and

a photodetector layer, adapted to detect electromagnetic radiation generated by the phosphor layer[[,]]; wherein

the phosphor layer includes ceramic material, [[and]]

the photodetector layer is joined to the phosphor layer, has a layer thickness of between 30 nm and 500 nm, inclusive, and includes organic material.

2. (Original) The X-ray detector as claimed in claim 1, wherein the ceramic material is at least one of Gd_2O_2S and $CdWO_4$.

3. (Original) The X-ray detector as claimed in claim 1, wherein the organic material is a mixture of p-type polyparaphenylene-vinylene (PPV) and n-type fullerene-phenyl-C61-butoxy-methoxine (fullerene-PCBM).

4. (Original) The X-ray detector as claimed in claim 1, further comprising:

an intermediate layer, arranged between the phosphor layer and the photodetector layer and joined to the phosphor layer and to the photodetector layer.

5. (Original) The X-ray detector as claimed in claim 4, wherein the intermediate layer includes a polymer.

6. (Original) The X-ray detector as claimed in claim 5, wherein the polymer is polyethylene-dioxy-thiophene-polystyrene sulfonate (PEDOT-PSS).

7. (Original) The X-ray detector as claimed in claim 1, wherein a bottom electrode is provided and includes an oxide.

8. (Original) The X-ray detector as claimed in claim 7, wherein the oxide is indium-doped tin oxide (ITO).

9. (Original) The X-ray detector as claimed in claim 1, further comprising a top electrode, joined to the photodetector layer.

10. (Original) The X-ray detector as claimed in claim 9, wherein the top electrode includes at least one of a metal and a metal alloy.

11. (Original) The X-ray detector as claimed in claim 9, wherein the top electrode includes a conductive polymer.

12. (Original) A CT device comprising the X-ray detector as claimed in claim 1.

13. (Currently Amended) A process for producing an X-ray detector for a CT device including a phosphor layer, useable to generate electromagnetic radiation as a function of the occurrence of X-radiation, and a photodetector layer, useable to detect generated electromagnetic radiation, comprising:

producing the phosphor layer from a ceramic material; and

applying the photodetector layer, made from an organic material and having a layer thickness of between about 30 nm and about 500 nm, inclusive, to the phosphor layer via at least one of spinning processing, printing processing, beam/jet processing and sticking the photodetector layer on the phosphor layer as a film.

14. (Original) The process as claimed in claim 13, further comprising:

polishing a surface of the phosphor layer before applying the photodetector layer.

15. (Original) The process as claimed in claim 13, further comprising:

applying an intermediate layer to the phosphor layer via at least one of spinning processing, printing processing, beam/jet processing and sticking the photodetector layer on the phosphor layer as a film, before applying the photodetector layer.

16. (Original) The X-ray detector as claimed in claim 2, wherein the organic material is a mixture of p-type polyparaphenylene-vinylene (PPV) and n-type fullerene-phenyl-C61-butoxy-methoxine (fullerene-PCBM).

17. (Original) The X-ray detector as claimed in claim 2, further comprising:

an intermediate layer, arranged between the phosphor layer and the photodetector layer and joined to the phosphor layer and to the photodetector layer.

18. (Original) The X-ray detector as claimed in claim 3, further comprising:

an intermediate layer, arranged between the phosphor layer and the photodetector layer and joined to the phosphor layer and to the photodetector layer.

19. (Original) The X-ray detector as claimed in claim 16, further comprising:

an intermediate layer, arranged between the phosphor layer and the photodetector layer and joined to the phosphor layer and to the photodetector layer.

20. (Original) The X-ray detector as claimed in claim 17, wherein the intermediate layer includes a polymer.

21. (Original) The X-ray detector as claimed in claim 20, wherein the polymer is polyethylene-dioxy-thiophene-polystyrene sulfonate (PEDOT-PSS).

22. (Original) The X-ray detector as claimed in claim 18, wherein the intermediate layer includes a polymer.

23. (Original) The X-ray detector as claimed in claim 22, wherein the polymer is polyethylene-dioxy-thiophene-polystyrene sulfonate (PEDOT-PSS).

24. (Original) The X-ray detector as claimed in claim 19, wherein the intermediate layer includes a polymer.

25. (Original) The X-ray detector as claimed in claim 24, wherein the polymer is polyethylene-dioxy-thiophene-polystyrene sulfonate (PEDOT-PSS).

26. (Original) The X-ray detector as claimed in claim 7, further comprising a top electrode, joined to the photodetector layer.

27. (Original) The process as claimed in claim 14, further comprising:

applying an intermediate layer to the phosphor layer via at least one of spinning processing, printing processing, beam/jet processing and sticking the photodetector layer on the phosphor layer as a film, before applying the photodetector layer.

28. (Currently Amended) An X-ray detector, comprising:

means for generating electromagnetic radiation as a function of an occurrence of X-radiation, including a phosphor layer; and

means for detecting electromagnetic radiation generated by the phosphor layer, including a photodetector layer[[,]]; wherein

the phosphor layer includes ceramic material, [[and]]

the photodetector layer is joined to the phosphor layer, has a thickness of between 30 nm and 500 nm, inclusive, and includes organic material.

29. (Original) The X-ray detector as claimed in claim 28, wherein the ceramic material is at least one of Gd_2O_2S and $CdWO_4$.

30. (Original) The X-ray detector as claimed in claim 28, wherein the organic material is a mixture of p-type polyparaphenylene-vinylene (PPV) and n-type fullerene-phenyl-C61-butoxy-methoxine (fullerene-PCBM).

31. (Original) The X-ray detector as claimed in claim 28, further comprising:

an intermediate layer, arranged between the phosphor layer and the photodetector layer and joined to the phosphor layer and to the photodetector layer.

32. (Original) The X-ray detector as claimed in claim 31, wherein the intermediate layer includes a polymer.

33. (Original) The X-ray detector as claimed in claim 32, wherein the polymer is polyethylene-dioxy-thiophene-polystyrene sulfonate (PEDOT-PSS).

34. (Original) A CT device comprising the X-ray detector as claimed in claim 28.